Scan Code: 04

Reviewer **bh** Permit # **06S1261P5966**
Date 11/29/02 Company **Tony Oil Co.**
Well # **4-B**
Location: **SE** /4; Sec **02** , T **22** N, R **07** E; **990'** F **N** L, **990'** F **E** L

TECHNICAL REVIEW

Type of Injection Well: SWD/Conversion/Active

Injection: Continuous

Approximate # Days operating/year **365**
Rate (B/D): Average **150** Maximum **500**
Wellhead Pressure (psi): Average _ Maximum _
Fluid: TDS _ SP.GR. _ Analysis Included: [Yes/No]
Source (Formation Name): **Arbuckle**

Geologic Data (All references to depths are below land surface)

Base of Historical Usable Water: _
Base of USDW and How Determined: **300' - Permit #0809, SE/4, 02/22/07, Well #3**
Injection Interval: Top **2854' & 2995'** Bottom **2995' & 2999'** Effective Thickness **34'**
Formation Name **Arbuckle** Lithology **Dolomite**
Porosity (%) **17.5** Initial Reservoir Pressure _ Date _
Permeability (md) **20.3**
Confining Zones: Thickness between injection zone & USDW **2554'**
Lithology _
Cumulative Shale _ Thickest Shale Zone _ (Interval)

Well Data: (All references to depths are below land surface)

Surface Elevation **887'** GL Total Depth **3015'**
Date Drilled or to be Drilled **12/4/77** Plugged Back Depth _
Date Converted _
Type Logs Available(this well): (By reference/included) **IEL, CDL, GRN, CBL**
_
Test Data (By reference/included) _

Construction:	Size (In.)	Depth Interval	Sacks of Cement	Hole Size	Cement Interval	How Determined
Surface Csg.	**8 5/8"**	**0-330'**	**220**	**12 1/4"**	**0-330'**	**Calculated**
Intermediate Csg.	_	_	_	_	_	
Long String Csg.	**5 ½"**	**0-3015'**	**150**	**7 7/8"**	**–1940'**	**CBL**
Liner Csg.	_	_	_	_	_	
Tubing	_	_	Packer type & depth **Arrow Tension - 2820'**			

Type Cement =	ft^3/ Sx.		# of Sx.	Total ft^3 of Cement		Lin ft / ft^3 from tables		Lin. ft. of Cement
	1.18	X	**220**	**259.6**	X	**2.4229**	=	**628**
	1.18		**150**	**177**		**5.7719**		**1021**

Area of Review (AOR) (1/4 mile - Osage; ½ mile - O.I.L.)
Map Submitted: Yes Tabulation of Wells Submitted: Yes
Faults Located: None Present
Number of Wells in AOR: Abandoned **2** Production **4** SWD _ EOR _
Number of Wells in Zone of Endangering Influence **0**
Number of Wells Requiring Corrective Action: SWD **0** EOR **0**

Well	Well Type	Problem	Corrective Action Required
_	_	_	_

Maximum Injection Pressure Calculation: Pm=(Frac Gradient - (.433 X SP.GR.)) X Depth
Pm = (.75 - (.433 X _)) X _ = _ (Psi) **(Used 0 psig - Arbuckle - Fracture Flow Reservoir)**
Well **Passes** Technical Review
Date **11/29/02** Reviewer **BH**